

PROPOSAL DEVELOPMENT PATTERNS AND PRACTICES IN THE ACADEMIC  
RESEARCH COMMUNITY

by  
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## **Abstract**

A disciplined and well-structured proposal development process can increase the probability of winning an opportunity and securing funding. Many industries have established best practices for proposal development that include maintaining a rigorous schedule; conducting regular in-progress reviews; and assigning a dedicated accountable person. However, within the academic research community best practices have not been identified and common beneficial tools and techniques are used infrequently.

This research thesis examined the proposal practices used within colleges and universities for academic research funding opportunities. Research for this project included a literature review; an anonymous survey with professional proposal practitioners; and interviews with subject matter experts (SMEs). The data was then reviewed, cleaned, and analyzed.

In total, 55 participants participated in the research survey; however, the data from up to four respondents was excluded in some areas due to incomplete survey responses. The research showed that the academic research community may sometimes use internally developed processes for their proposals, but that these processes are widely variant and frequently do not conform to known best practices or take advantage of common tools. Further research should be conducted to: (1) identify best practices unique to the academic research community based on outcome-based criteria; (2) quantify the impact of the adoption of best practices; and (3) determine if any factors, such as funding opportunity size, university/department size, and research activity level warrant different processes, tools, and levels of oversight.

**Primary Reader and Advisor:** Jeffrey Kantor, PhD.

## Table of Contents

<b>Abstract</b> .....	ii
<b>Tables of Charts and Figures</b> .....	iv
<b>Chapter 1: Introduction</b> .....	1
<b>Chapter 2: Review of the Literature</b> .....	2
2.1 University Research .....	2
2.2 Shipley Proposal Development Process.....	4
2.3 Color Team Reviews.....	6
2.4 The Association of Proposal Management Professionals .....	8
2.5 Project Management Institute’s Project Management Body of Knowledge .....	9
2.6 University Collaborations .....	9
2.7 Conclusion .....	11
<b>Chapter 3: Problem Statement</b> .....	12
<b>Chapter 4: Methodology</b> .....	13
4.1 Survey Research Tools .....	13
4.2 Identification of Participants.....	14
4.3 Survey Design and Limitations of the Questionnaire .....	15
4.4 Research by Interview.....	15
4.5 Institutional Review Board Review .....	16
<b>Chapter 5: Data Analysis</b> .....	17
<b>Chapter 6: Discussion of Project Results</b> .....	19
6.1 Discussion of Survey Results.....	19
6.2 Cross Cutting the Data .....	25
6.3 Interview Results .....	32
<b>Chapter 7: Conclusion</b> .....	34
<b>Works Cited</b> .....	36
<b>Appendices</b> .....	42
Appendix I: Survey .....	42
Appendix II: Survey Respondents by Affiliation and Carnegie Classification .....	48
Appendix III: Email Script for Requesting Interviews and Interview Questions .....	49
Appendix IV: Live Interview Design for Live Interviews.....	50
Appendix V: CITI Program Certification .....	51

Appendix VI: IRB Email .....	52
Appendix VII: Full Answers to Question 3b – If you use a process other than a Shipley-based process please describe your process in a few sentences. ....	53
Appendix VIII: Full Answers to Question 5b – If [proposals] are not being reviewed throughout the process does this create "last minute work" to identify and/or fix the issues? .....	55
Appendix IX: Full Answers to Question 9b – If [issues in proposal development] is something that you have encountered, please explain: .....	57
Biographical Statement .....	59

## Tables of Charts and Figures

Figure 1: Purpose of Color Team Review Meetings.....	7
Figure 2: APMP membership with university affiliations .....	9
Figure 3: Organizations with a Proposal Development Process .....	19
Figure 4: Participants who follow the Shipley Process.....	21
Figure 5: Institutions Which Conduct In-Progress Reviews.....	21
Figure 6: Common Tools in Use by Institutions .....	22
Figure 7: Frequency of Gating Controls Used by Institutions for Off Track Proposals .....	23
Figure 8: Frequency of Side Effects Due to Problems in Proposal Development .....	24
Figure 9: Frequency of Encountered Quality Problems.....	25
Figure 10: Frequency of Missed Deadlines by Issues During Development.....	26
Figure 11: Contingency Table Defining the Composite Variable, Performance Rating.....	26
Figure 12: Model Summary of Regression Statistics.....	27
Figure 13: ANOVA Table for Regression Model.....	27
Figure 14: Table of Coefficients for Regression Model .....	28
Figure 15: Uses Best Practice Tools by Performance Rating. ....	28
Figure 16: Uses in-progress reviews by Performance Rating. ....	29
Figure 17: Uses Progress Checks by Performance Rating. ....	30
Figure 18: Assigns an Accountable Person by Performance Rating.....	30
Figure 19: Frequency of Issues During Development by Ad Hoc Process Control.....	31
Figure 20: Frequency of Issues During Development by Shipley Process Control.....	32

## **Chapter 1: Introduction**

A well-defined proposal development process can increase the probability of a proposal or grant being awarded. Each proposal involves risk that can be mitigated if the project is managed well. The funding entity's opinion of the proposal, and the overall score depends on how well the details are managed and controlled during the proposal process. A best practice, which mitigates issues and increases the chances of a project being awarded, is to implement a defined proposal development process. Proposal development processes are standard in many industries to include board commercial sectors and industries that support the US Department of Defense (DoD); however, research has shown that entities within the research continuum are very inconsistent with implementing a defined proposal development process.

## Chapter 2: Review of the Literature

The study of current practices reveals that proposal development is generally split between two distinct methodological approaches: (1) Shipley-like model (2) ad hoc approach. Although several studies find generally higher success rates for implementing a standard process, such as the Shipley Proposal Development Process<sup>1</sup>, initial research identifies substantial variation within academic institutions. However, a causal relationship between successful processes and increased outcomes, such as higher win-rates and larger funding levels, has not been documented because adequate research at this level has not been conducted.

### 2.1 University Research

A research university is an academic institution that is committed to providing both academic advancements coupled with research pursuits<sup>2</sup>. The university may be either publicly or privately funded. Universities will often seek funding to support their research endeavors by pursuing competitive grant and contract funding. Doctoral research universities are classified into two subsets: R1 – very high research activity or R2 – high research activity<sup>3</sup>. The designation of these two classifications are based on the amount of research activity and successful funding levels at each individual research university. Currently, in the United States, there are 131 R1 universities and 135 R2 Universities<sup>4</sup>.

Outside funding is key to the ability to pursue academic research. An analysis of university research funding by the Higher Education Research and Development Survey (HERD) shows that total university research and development expenditures topped \$79 billion in fiscal year

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<sup>1</sup> Newman, Larry, and Shipley Associates. *Proposal Guide for Business Development Professionals*. Farmington, UT: Shipley Associates, 2001. Web.

<sup>2</sup> Altbach, Philip G., et al. *Accelerated Universities: Ideas and Money Combine to Build Academic Excellence*. Volume 40 Vol. Leiden; Boston: Brill Sense, 2018.

<sup>3</sup> Indiana University Center for Postsecondary Research. *The Carnegie Classification of Institutions of Higher Education, 2018 Edition*. Bloomington, IN, 2018. Print.

<sup>4</sup> Ibid.

2018<sup>5</sup>. The survey estimates that institutions were able to self-fund 26% of their research activities and that 74% of research activities were funded by grant and contract-based monies<sup>6</sup>. During that same fiscal year, the National Institutes of Health (NIH) reported a 20.2% success rate across nearly fifty-five thousand applications<sup>7</sup> considered for financial assistance, while the National Science Foundation (NSF) reported a 24% success rate across forty-eight thousand applications<sup>8</sup>.

The review of the literature has shown that R1 and R2 universities may be staffed with a Research Development Office, which may work to implement proposal support and business development assistance. However, these offices are built to focus on supporting large multidisciplinary proposals<sup>9</sup>. The support provided via these offices are determined by the goals and priorities of the institution<sup>10</sup>.

Proposal development at large research institutions can vary from institution to institution. A joint team from Penn State University and Huron Consulting Group studied the differences between how universities approached proposal development for large, complex, multi-investigator research opportunities. The results found that processes were inconsistent across universities and support varied between large proposal efforts and smaller funding opportunities. Proposal processes were neither standardized nor was support and oversight universally available<sup>11</sup>.

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<sup>5</sup> *Higher Education Research and Development Survey; Fiscal Year 2018*.  
<https://ncesdata.nsf.gov/datatables/herd/2018/>

<sup>6</sup> Ibid.

<sup>7</sup> National Institutes of Health. *Research Project Success Rates by NIH Institute for 2018*. Print

<sup>8</sup> National Science Foundation. *Funding Rate by State and Organization.*, 2019. Print.

<sup>9</sup> Kulakowski, Elliott C., Lynne U. Chronister, and Research Enterprise. *Research Administration and Management*. Sudbury, Mass.: Jones and Bartlett, 2006. 137. Web.

<sup>10</sup> Ibid.

<sup>11</sup> Mulfinger, Lorraine M., et al. "Trends in Large Proposal Development at Major Research Institutions." *Journal of Research Administration* Vol. 47. Iss. 1 (2016): 40-57. Web.



The study examined the support model used for these opportunities and focused on support models and research, relationships for win-rates, and investigated the hypothesis that universities with dedicated proposal support departments such as Research Development Offices or Large Proposal Offices would be more successful. The study did not investigate the specific processes being used, but noted that each office within the universities examined had varying criteria for how they select the proposals that they will support<sup>12</sup>.

A review of the websites of universities that have stand-alone Proposal Development Offices illustrated that many of these entities have staffed their departments with proposal developers or proposal managers. It is also apparent that these offices implement a more rigorous proposal development process, which often mirrors aspects of the Shipley Proposal Development Method. For example, The University of Arizona's Proposal Process includes language and guidance about Color Reviews but does not provide information on how to organize or conduct a review. The website references the importance of Color Reviews; however, it does not mention the Shipley Process by name. It instead states that it is recommending a Color Review process that was adapted from "industry-wide best practices in business development".<sup>13</sup>

## 2.2 Shipley Proposal Development Process

A defined proposal development process that is consistently implemented is widely believed in private sector industry to increase win-rates, increase the ability to bid more work, and has decreased employee burden<sup>14</sup>. The main proposal process of note was developed by the Shipley Associates and is focused on winning more work and inducing opportunities that will lead to

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<sup>12</sup> Mulfinger, Lorraine M., et al. "Trends in Large Proposal Development at Major Research Institutions." *Journal of Research Administration* Vol. 47. Iss. 1 (2016): 40-57. Web.

<sup>13</sup> Proposal Planning. The University of Arizona. N.D. Web. August, 1, 2020  
<<https://rgw.arizona.edu/development/proposal-development/proposal-planning>>.

<sup>14</sup> Shipley Associates. *Writing Winning Proposals: Capturing Federal Services Business: Workshop Manual*. Bountiful, Utah. The Associates, 1992b. Web.

follow-on work<sup>15</sup>. The process includes a detailed 96-step roadmap that traverses the bid process from opportunity identification to project award. Though this process is standard, many organizations will refine the process to eliminate steps deemed extraneous to their needs. The most common steps are those that take place starting at the release of the Request for Proposal (RFP) or solicitation. The Shipley process is widely implemented in commercial industry and in Government sectors such as Defense. The full process is often modified to meet the needs of individual institutions.

Proposal development processes are implemented across multiple business sectors to include Business-to-Business (B2B), Business-to-Federal Government (B2G), and Business-to-State and Local Government serving Defense, military, healthcare, engineering, and Information Technology sectors. Shipley recommends that a proposal development best practice framework be scalable so that it can be understood and easily implemented across different entities that may have varied internal processes, procedures, and approvals. The Shipley method is not a program management-based system, it is a process-based system and is flexible to meet the needs of each individual entity. For example, one small university center may choose to streamline the process to meet their unique needs.

Institutions of higher education rely on competitive grant and contract funding. Though not their strongest business line, Shipley has supported academic institutions such as George Mason University, Arizona State University, The University of Michigan, and New Mexico State University<sup>16</sup>. Failure to implement these best practices can increase risk, increase workload burden, and reduce win-rates. One case study that Shipley cites shows that their process assisted

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<sup>15</sup> Shipley Associates. *Writing Winning Proposals: Capturing Federal Services Business: Workshop Manual*. Bountiful, Utah. The Associates, 1992b. Web.

<sup>16</sup> Ibid.

a university with responding to twice as many proposals within an 18 month period; a reduction of time spent writing and preparing the proposal response; and an increase in the win-rate<sup>17</sup>. An important gap in the literature involves exploring why the academic continuum has not universally adopted a standardized proposal process.

### 2.3 Color Team Reviews

The Shipley process uses specific colors to identify the intent of each in-progress review. Each review is meant to build upon the previous review with the goal of improving the quality of the proposal response. Often the reviews will focus on strategic elements such as win themes, customer focus, weakness mitigation, competitiveness, staffing, price to win and overall compliance. Additionally, the format and length of each review meeting may depend on the size, scope and complexity of the proposal opportunity. Each meeting has the flexibility to be tailored to meet the needs of the proposal team. For example, a Red Team meeting for a simple proposal may be scheduled to last one hour, whereas a Red Team meeting to review a complex proposal may be scheduled for a four hour period. The process provides a common language and defined expectations. This assists with both internal communication with members of the immediate proposal team as well as any outside partners. The main steps associated with the Shipley Proposal Development Process are designed to facilitate the process, set standards and milestones, increase the strength of the proposal, and increase the win-rate. Interestingly, review of the literature has shown that, in general, universities have not adopted this process. A snapshot of Color Team Reviews is outlined in Figure 1:

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<sup>17</sup> Shipley Associates. *Writing Winning Proposals: Capturing Federal Services Business: Workshop Manual*. Bountiful, Utah. The Associates, 1992b. Web

## Color Team Reviews

Blue Team	Pre-proposal review to assess the capture plan and strategy
Black Hat	A Pre-proposal review to address capture, and conduct competitive analysis on the strengths of the competition
Kick Off Meeting	Post-solicitation review to discuss the instructions to offerors, review internal business strategy and identify any questions for the offeror
Pink Team	Verify win strategy and ability to comply with the instructions of the offeror
Red Team	Review of draft proposal; predict how the proposal will be scored; and receive actionable feedback
Green Team	Review and approve pricing
Gold Team	Review to confirm proposal compliance
White Hat	A review after submission to gather lessons learned and identify areas for process improvements

*Figure 1: Purpose of Color Team Review Meetings*

The proposal development process can often be viewed at the macro level to include writing, building, and compiling a proposal package. Additionally, a successful proposal process should include internal review milestones. These milestones serve as decision gates and checkpoints to allow for experts and managers to provide direct feedback into the proposal. Progress assessments are conducted to determine if the proposal is on track, on schedule, and on the right path towards submission. The Color Team reviews can help to reduce the financial and opportunity cost of proposal development within an organization by stopping or shifting work away from proposals with material weaknesses or are otherwise deemed as unlikely to be competitive. The feedback during reviews should be actionable and focused on improving the success of the proposal. When implemented, Color Team reviews can help increase the win-rate of an organization<sup>18</sup>.

Though grant writing and proposal development is prevalent in the research continuum, a literature review has shown that a standard proposal development process is not used. The

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<sup>18</sup> Newman, Larry, and Shipley Associates. Proposal Guide for Business Development Professionals. Farmington, UT: Shipley Associates, 2001. Web.

limited studies conducted to date suggest that proposal processes are not standardized and vary from entity to entity<sup>19</sup>.

## 2.4 The Association of Proposal Management Professionals

The Association of Proposal Management Professionals (APMP) is a professional body whose members specialize in proposal development and running scalable and consistent proposal processes. The APMP recommends implementation of gates and reviews and maintain that the process should be tailored to the needs of both the organization and the individual proposal<sup>20</sup>. Quality reviews can be conducted through seated color review meetings or can be conducted via written feedback of a checklist<sup>21</sup>. This scalability helps to ensure both consistency and that checks and balances are incorporated during proposal projects with very quick turnaround times.

The APMP recommends that organizations adopt the Shipley or similar process for proposal development. However, research conducted shows that the Shipley process is not widely implemented within institutions of higher education. Both Shipley and APMP works to certify practitioners on their capabilities and the proposal process. Globally, APMP consists of approximately 10,000 members, yet only a small portion of those members have been actively associated with institutions of higher education. Their internal metrics show that in the history of the organization only 22 universities have had staff members who currently or have at one time been members of APMP<sup>22</sup>:

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<sup>19</sup> Mulfinger, Lorraine M., et al. "Trends in Large Proposal Development at Major Research Institutions ." *Journal of Research Administration* Vol. 47. Iss. 1 (2016): 40-57. Web.

<sup>20</sup> Association of Proposal Management Professionals. "APMP Body of Knowledge." Web. <<https://www.apmp.org/>>

<sup>21</sup> Association of Proposal Management Professionals. *APMP BOK: Applying Project Management Principles to Business Development.*, 2014. Print.

<sup>22</sup> Raynor, and Shauna. *University Affiliated Member List: APMP*. Ed. Amy McGovern., 2020. Print.

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|---|--|
| <ul style="list-style-type: none"> <li>▪ University of Oregon</li> <li>▪ University of Nevada</li> <li>▪ University of Maryland</li> <li>▪ University of Massachusetts, Amherst</li> <li>▪ University of Massachusetts Medical School</li> <li>▪ University of Houston</li> <li>▪ University of California, San Diego</li> <li>▪ University of California, Riverside</li> <li>▪ University of California, Irvine</li> <li>▪ University of Dayton</li> </ul> | <ul style="list-style-type: none"> <li>▪ University of Plymouth, UK</li> <li>▪ University of Derby, UK</li> <li>▪ University of Westminster, UK</li> <li>▪ University of Wolverhampton, UK</li> <li>▪ University of Birmingham, UK</li> <li>▪ University of Utah</li> <li>▪ University of Louisiana, Lafayette</li> <li>▪ University of Wisconsin</li> <li>▪ University of Toronto, CAN</li> <li>▪ University of Texas at Brownsville</li> <li>▪ University of Vermont</li> <li>▪ University of Arizona</li> </ul> |
|---|--|

*Figure 2: APMP membership with university affiliations*

## 2.5 Project Management Institute's Project Management Body of Knowledge

The Project Management Institute's best practices from the Project Management Body of Knowledge (PMBOK) are a widely accepted standard which could be adopted as part of process standardization<sup>23</sup>. However, it suffers from the same high administrative burden as the Shipley Proposal Development process. There are numerous overlapping tools and concepts between the two models. This includes backward planning from the bid submission deadline; developing matrices; and creating Gantt charts to show task sequencing, task dependencies, and a proposal development timeline. This can help to expose scheduling and resourcing problems with tasks that sit along the critical path. The PMBOK also recommends vigilantly tracking completed, incomplete, and past-due tasks.

## 2.6 University Collaborations

Potential opportunities for new business can arise from different types of funding sources to include industry, government, non-profit and university partnerships. The lack of a defined

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<sup>23</sup> Project Management Institute. *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*. Newtown Square, PA; Evanston, IL: Project Management Institute; EIS Digital Publishing, 2004. Web.

framework for internally managing the proposal development process can cause miscommunication, risk, and increased burden of effort. A lack of process can lead to costly and time-consuming mistakes during proposal collaboration due to breakdowns in team structure and communication between members. A common example of this is version control issues, which can result in duplication of effort and extensive rework. A formal proposal development process, that can be scaled up or tailored as needed, will assist in applying project management methodologies, increase efficiencies, and can improve the organization's proposal win-rate. This framework can help to track and manage the bid process and can build clear communication channels, manage task assignment, and assure that tasks are met. This can also assist with reducing last-minute corrections, late decisions or systemic errors and missed deadlines. These types of issues increase team workload, reduce productivity, place projects at risk, and can even place other projects at risk due to resourcing conflicts.

Implementation of a proposal development process can also assist with decision support for evaluating potential opportunities. Tracking the progress of a proposal can allow for asynchronous and continuous assessment and remove the delays and administrative costs by reducing burden and providing a snapshot and visibility of status. It also enforces both qualitative and quantitative aspects of the assessment process. This can be accomplished by creating a template for status tracking. This will provide a framework for adherence to project management best practices and better ensure that critical tasks are not missed. The information in the template would be mapped to the proposal calendar and would facilitate backward planning for taskings, due dates, internal deadlines, and the client's submission deadline.

## 2.7 Conclusion

A review of current literature has examined current proposal and project management best practices within the University community. The literature review also affirmed the potential advantages for implementing a universal proposal process such as the Shipley method. Best practices combined with continuous feedback and reviews can dramatically help to improve the quality of proposal development within academic institutions. The review of the literature has shown that R1 and R2 universities may be staffed with a Research Development Office. However, it often may only work to implement proposal support and business development assistance for large strategic bids that fall above a specific budgetary threshold. A major limitation of this literature review is that numerous universities have not executed a consistent, and university-wide, proposal development process. Current research has also identified that universities may not use proposal best practices; however, a continuation of current research would be beneficial.



### **Chapter 3: Problem Statement**

Although a well-defined proposal development process can increase the probability of a proposal or grant being awarded, many entities in the research community have yet to adopt proposal development best-practices. The implementation of a standard proposal development process can improve efficiency, reduce risk and administrative burden, and help to increase the chances of project being awarded<sup>24</sup>.

This thesis examined the use, or lack of common implementation of a proposal development process within the university research community. This is important to help assess current practices. The research centered on four specific aims:

1. Evaluate current proposal development best practices.
2. Investigate if current proposal best practices are being implemented within academic institutions.
3. Assess how current practices within academic institutions are affecting their proposal process.
4. Identify common and dissimilar patterns between groups of academic institutions based upon quality metrics.

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<sup>24</sup> Newman, Larry, and Shipley Associates. Proposal Guide for Business Development Professionals. Farmington, UT: Shipley Associates, 2001. Web.

## **Chapter 4: Methodology**

As part of this research thesis process, a survey was designed with the goal to collect data and first-hand knowledge to ascertain if universities are implementing a proposal development process and what elements, if any, they are implementing. The survey also asked questions to discover both the degree and types of problems encountered during the proposal development process. The survey was released to subject matter experts (SMEs) via postings using the National Council of University Research Administrators (NCURA) collaboration feature, LinkedIn, and a targeted social media group made up of research administrators. Respondents were also presented with options to provide additional written comments and feedback.

### **4.1 Survey Research Tools**

Several techniques were used to capture different perspectives from research administration staff who support the development of proposals at their institutions. Participants were instructed to spend no more than 10 to 15 minutes filling out the survey and were not granted any compensation for their participation. The survey asked participants to provide a high-level overview of proposal tasks, current process, outputs, problems, communication issues, and overall culture. Respondents were also presented with an option to provide their contact information if they would like to be contacted for a more in-depth follow-up interview. The full survey is shown in Appendix I.

Simultaneously, a literature review of the Shipley Proposal Development process, research administration best practices, as well as the Project Management Institute's PMBOK was conducted. This information was used to create an initial best practice profile for process implementation to assess respondents against. 55 participants in total provided survey responses. Participation in the survey included 21 R1 universities, comprised of 15 public universities and

six private universities. The survey also included responses from two R2 universities, representing one private university and one public university. Thirteen respondents did not address affiliation and chose to be fully anonymous and three stated that they were not affiliated. The three responses that were not affiliated with a university were excluded from the data because the intent of this research is only to assess practices and outcomes within universities. The full chart outlining the affiliation of the survey respondents is included in Appendix II.

#### 4.2 Identification of Participants

Survey participants were recruited using the collaboration features of the National Council of University Research Administrators (NCURA). The survey request was posted to two of NCURA's Collaboration Communities: Departmental Research Administration Community (625 active members) and the Pre-Award Research Administration Community (788 active members)<sup>25</sup>.

Users self-selected participation in the online communities and their participation in this research survey was voluntary. Recruitment of participants for the in-person interview was based on internet search queries for universities that have either active Research Development Offices or Offices of Proposal Development. A list of universities was collected, and their websites were reviewed. Survey participants were also identified through a social media group whose membership is made up of Research Administrators. Additional participants were recruited through the direct and indirect contacts of the researcher through the professional network, LinkedIn.

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<sup>25</sup> National Council of University Research Administrators (NCURA) Collaboration Communities. Web. July 9, 2020.

#### 4.3 Survey Design and Limitations of the Questionnaire

The survey was designed using Google Forms and began with a brief description and intent of the study as well as a research statement. Additional background was also provided when each survey was distributed. The survey was designed to be anonymous; however, a field was provided to allow the participants to leave additional comments and provide contact information if they had questions for the researcher. The survey asked respondents to answer a series of 14 questions; some of which were multi-part. The survey was accessible via a link within the online post and was open to respondents for five days. As mentioned above, the full survey is included in Appendix I.

Participants were not directly recruited individually via their professional or social media affiliation. Survey participants were queried via NCURA, LinkedIn and a Research Administrators membership group on the social media platform, Facebook. Due to the nature of the groups from which participants were recruited there is likely a selection bias favoring respondent with more rigorous proposal development practices.

#### 4.4 Research by Interview

As part of this research thesis project, the websites for 20 R1 Universities were reviewed and vetted to investigate if they possessed a Research Development Office. The websites were reviewed and checked for publicly posted staff contact information. The pool of 20 was randomly reduced to a field of 10 and in-person interview requests were sent out the Directors of each office via email. An e-mail script was developed, and each contact was provided with the same information. A copy of the interview request email can be found in Appendix III.

From the 10 requests, five responded and four representatives were interviewed from Arizona State University, the University of North Carolina at Chapel Hill, Boston University and

George Washington University. The representatives were interviewed as subject-matter experts who help facilitate the proposal process at their respective institutions. The one-on-one interviews were scheduled over a five-day period and were conducted using the Microsoft Teams video conferencing platform. Notes were taken during each interview. A copy of the questions that were used to guide the interviews may be found in Appendix IV.

#### 4.5 Institutional Review Board Review

In planning the research activities for this study, and before conducting any activities, the Homewood Institutional Review Board (HIRB) was contacted and the Collaborative Institutional Training Initiative (CITI) Human Subjects training program was completed. A copy of the certification can be found in **Error! Reference source not found.** The draft survey and inquiry were reviewed by the office. It was determined that this research study did not qualify as human subjects research since the data collected was subject matter expert interviews. It was also determined that the survey would not be collecting private information about living individuals and, as such, did not require HIRB approval and oversight:

“The activities do *not* involve obtaining, using, studying, analyzing, or generating individually identifiable and private information about living individuals or identifiable biospecimens. (Black, 2020)”.

A full copy of the correspondence with the HIRB may be found in Appendix VI.

For data security, the survey for this effort was developed in Google Forms and was distributed via the NCURA email list serve, LinkedIn, and via professional contacts. Telephone and email queries were also used to contact the following entities: Shipley Associates, APMP, the University of Arizona, The University of North Carolina at Chapel Hill, George Washington University, and Boston University. All contacts were tracked via note taking and a contact log.

## **Chapter 5: Data Analysis**

To investigate the use of defined proposal development practices, a survey was distributed to members of the university research community. For this thesis, qualitative research was performed as part of an interview series conducted via video call and quantitative research data was gathered using a survey questionnaire. The survey sought to learn at a high-level what practices, tools, and processes academic institutions are using within their proposal development efforts. The survey also sought to determine how frequently institutions encounter issues or challenges including increased workload, missed deadlines, and burden of effort.

The responses of both the interview series and the questionnaire were used to identify whether research teams were encountering issues during the proposal development process and to identify the types of issues that commonly occur. Respondents were provided with survey questions to gather quantitative data to assess specific aspects of current processes and to gather information on the institutions' specific tools used in proposal development. The survey was designed to have the respondent answer multiple choice questions and also provided space for additional free text response as needed.

The responses to the survey questions were extracted into Microsoft Excel. The raw data was compiled, cleaned, and analyzed. They were categorized within a contingency table based on how often deadlines were missed and how often problems were encountered. The respondents were also grouped into low, medium, and high performers based on the factor for Frequency of Issues During Development. This analysis and the Performance Rating variable are described in further detail in section 6.1. The data was then aggregated, and statistical analyses were performed to attempt to identify trends, patterns, and commonalities between groups based on the frequency they experience issues during proposal development as well as their composite

performance rating. Establishing direct causality between specific practices and outcomes is outside the scope of this observational study. The intent of the research is to assess whether there are identifiable differences between the practices of institutions which experience fewer issues during proposal development and those which experience more frequent issues during proposal development.

## Chapter 6: Discussion of Project Results

### 6.1 Discussion of Survey Results

Research shows, and confirms in the literature review that many universities do not incorporate industry best practices into their proposal development processes such as using a standard calendar, responsibility matrix, and color team reviews. The survey results as seen in Figure 3 show that 58% of respondents state that their institution has a defined process, whereas 35%, a sizable minority, did not follow a defined process at all.

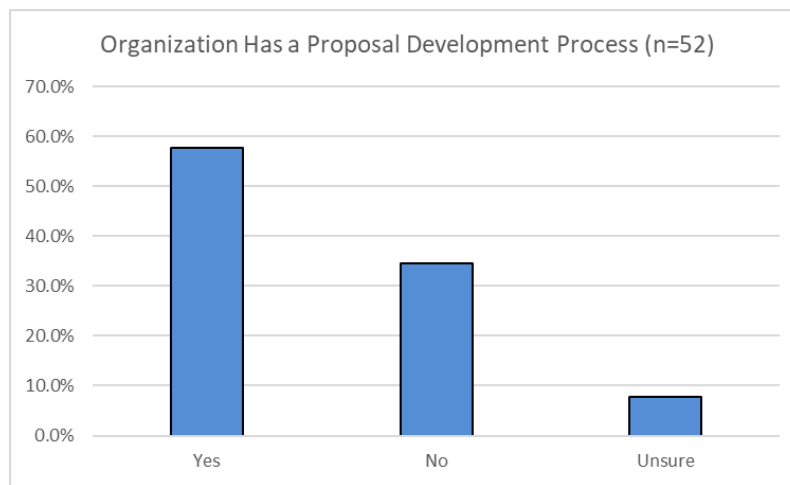


Figure 3: Organizations with a Proposal Development Process

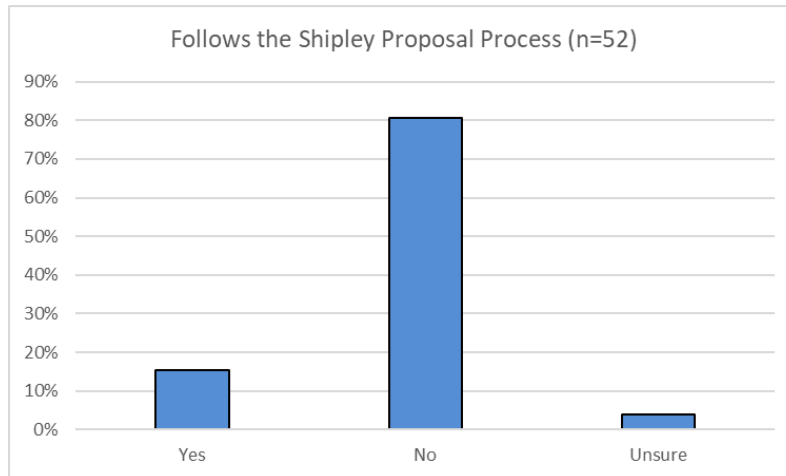
Approximately half of the respondents provided additional information about their specific process through the free-text answer field on the survey. Many of the comments from the survey illustrated that even when an institution identified that they use a defined process, it is often self-initiated and does not always include the implementation of tools and best practices. The full list of comments can be found in Appendix VII and a selection of comments which exemplify this observation are:

- *The get it done process- make sure it follows guidelines and submit*
- *Use Smart Sheet and proposal check list*
- *Depends entirely on the sponsor and the PI*
- *SCRUM/Agile Project Management with needs-based adjustments*



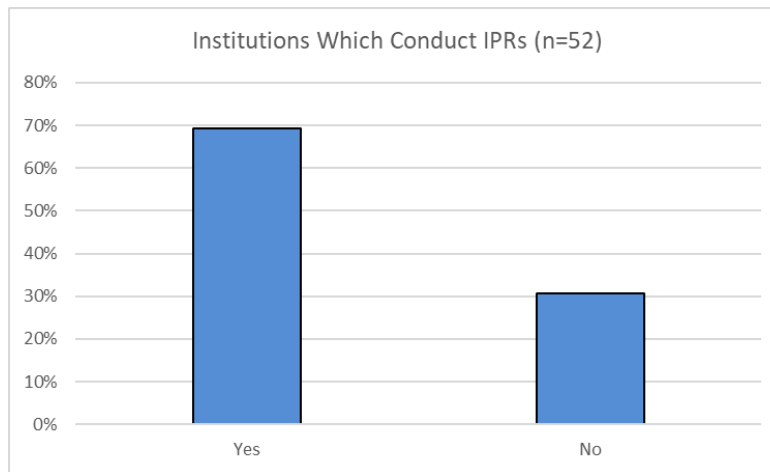
- *Home-grown across university and college units as determined by individual grant specialists*
- *It's merely coordination with the PIs letting them know what is expected from them*
- *I am Shipley Method and Project Management (PMI) trained. I've bastardized a system that helps me keep our faculty on track as best as I can.*
- *We have a process that includes gate checks, but we don't always follow them due to last minute proposal submissions. We implemented a deviation, called, "Submitted-no review," where proposals are not reviewed by our office outside of 3 business days. This helps us protect our time and to encourage faculty to submit to us on time.*
- *Variation on Shipley (engaging red-team) only done for large multi-million dollar, multi-institutional/organizational efforts. Other considerations as to 'process' to be followed include limited submission (internal selection); alignment to institutional priorities (e.g., diversity, equity & inclusion) / identified research themes, or 'simply' investigator initiated. All these factors impact the nature and complexity of the process used.*
- *Checklist*
- *Our Dept uses a self-created process.*
- *Internal process that uses deadlines and milestones, but these end up being flexible when PIs need more time.*

However, most respondents stated that their institutions do not use a rigorous and defined method such as the Shipley Proposal Development process that includes industry best practices. When asked, an overwhelming majority of respondents, 81%, stated that they did not use the Shipley or a similar process and another 4% were unsure if their institutions had a proposal development process. By contrast, only 15% of respondents used a rigorous method such as Shipley. The distribution of respondents following the Shipley process is displayed in Figure 4.



*Figure 4: Participants who follow the Shipley Process*

When asked if their institutions use rolling, or formal, in-progress reviews (IPRs) 69% of respondents said that they do. However, 31% of respondents noted that their institution does not include IPRs as part of their proposal process. This data is shown below in Figure 5.



*Figure 5: Institutions Which Conduct In-Progress Reviews*

The implementation of formal proposal development best practices can better inform and assist technical teams throughout the proposal life cycle and grant writing process. The survey collected information on the frequency which several common tools are used. This data is summarized below in Figure 6. When asked if their proposal process incorporated the use of a schedule and responsibility matrix only 31% of institutes responded that they at least Often used

those tools (10% Often and 21% Always). Interestingly, as noted above, 69% of respondents noted that they conducted in-progress reviews; however, when asked if their institutions conduct a progress check, 79% of respondents stated that they implement progress checks at least Often and only 4% responded that they Never conduct progress checks. This difference may be due to the sample size, respondent interpretation of the survey question, or may suggest that some institutes are opting for more superficial controls within their proposal development practices. More research in this area would need to be conducted to further investigate this observation. Additionally, 60% of institutes responded that they at least Often (25% Often and 35% Always) assign an accountable person to help throughout the life cycle of the proposal process.

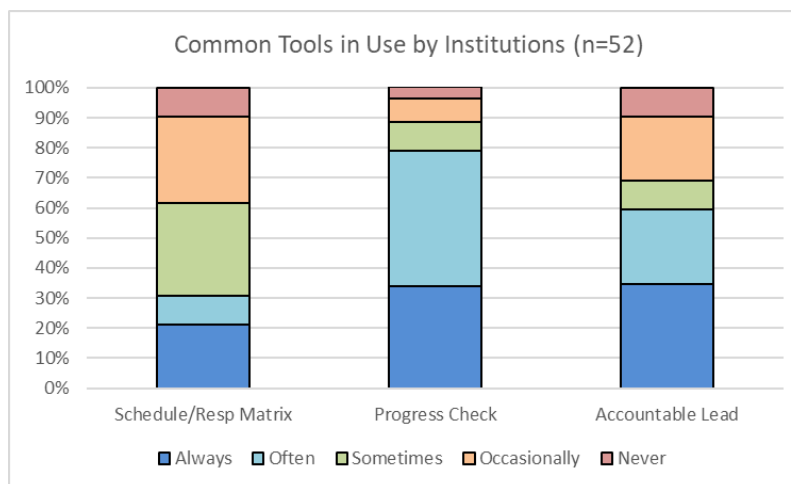


Figure 6: Common Tools in Use by Institutions

The respondents were asked if their institutions imparted Go/No-Go gate controls where a decision would be made to either cancel a proposal or push it to the next grant submission cycle if it were off track. As shown in Figure 7, when asked if a proposal that is not on track for submission would get cancelled, 58% of institutions responded that they Never cancel and 29% responded that they Occasionally cancel proposals. Additionally, when asked if a proposal would get pushed to the next cycle, 21% of institutions responded that they Never push the submission to the next cycle and 52% responded that they Occasionally will push a submission to the next

cycle. This may indicate that many institutes are expending effort on proposals with a low chance of success, thus incurring a higher opportunity cost for their proposal development. More research in this area would need to be conducted to determine if there is an association between Go/No-Go gating controls and outcomes such as win-rate.

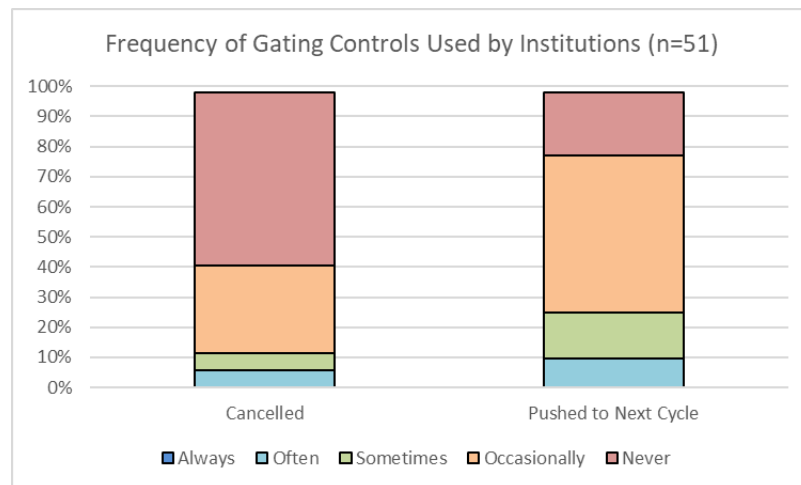


Figure 7: Frequency of Gating Controls Used by Institutions for Off Track Proposals

The survey also assessed if proposal issues cause side effects such as additional workload and staff burden. This data is summarized in Figure 8. When asked, respondents stated that an overwhelming majority experienced increased workload due to proposal issues. Of the respondents, 23% stated that proposal issues Always create increased workload, while 44% stated that they Often encounter issues with increased workload. When queried if this increased workload impacted other work or duties all of the surveyed institutes responded that this occurs at least Occasionally (15% Occasionally, 33% Sometimes, 40% Often, 12% Always).

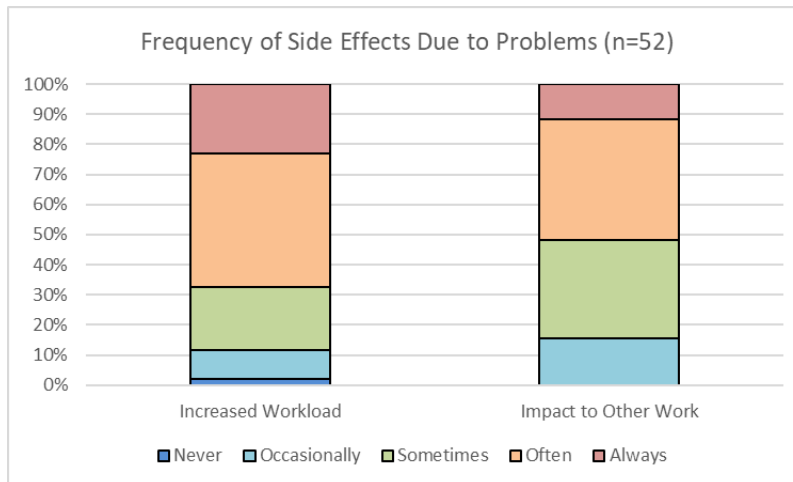


Figure 8: Frequency of Side Effects Due to Problems in Proposal Development

Written comments by the respondents showed that the issues found at the proposal level could include but is not limited to correcting forms that had been submitted in an outdated format, fixing Current & Pending forms and fixing budgetary issues. The full list of comments regarding last minute work and common proposal development issues can be found in Appendices VIII and IX, respectively. A few illustrative comments are:

- *Some PIs refuse to send thing until the last minute*
- *Yes, if the ongoing development review is not completed, this results in last minute changes to align with policies and procedures.*
- *Of course. When PIs don't allow me (PD) in the creation process, there's inevitably issues to correct within the routing deadline (3 days for our SP office). Unfortunately, this burden falls on the RA staff.*
- *Yes, when PIs don't follow the deadlines and we're forced to review items at the last minute, it creates issues. We work hard to eliminate rush proposals but are still running about 25% rushes.*
- *Our research process is fairly new and undeveloped. Lack of familiarity with the process and requirements often causes issues and delays in development and submission.*
- *There are no consequences for faculty who do not meet suggested targeted deadlines for each proposal component. The university submits any/all proposals no matter the quality. With a new ADR in the past year, my college unit is beginning to implement quality over quantity approach and work with PIs as a team, expending time/effort on those PIs/teams that are most deserving and are most likely to boost award hit rate.*
- *I am Shipley trained, but there is a MASSIVE resistance to implementing a formal management process across our campus. "That doesn't work here."*

- *Behind schedule, missed deadlines: sometimes. Rework, incorrect budget, wrong forms: nearly always.*
- *Mostly behind schedule which makes for long hours near the deadline*

The survey also assessed if proposals at their institution fell off schedule, missed deadlines, and encountered issues during development as shown in Figure 9. 47% of institutions responded that they at least Often miss deadlines (43% Often and 4% Always). Additionally, respondents were asked if they encountered issues during development. For this question, 35% answered Sometimes, 27% answered Often, and 6% answered Always.

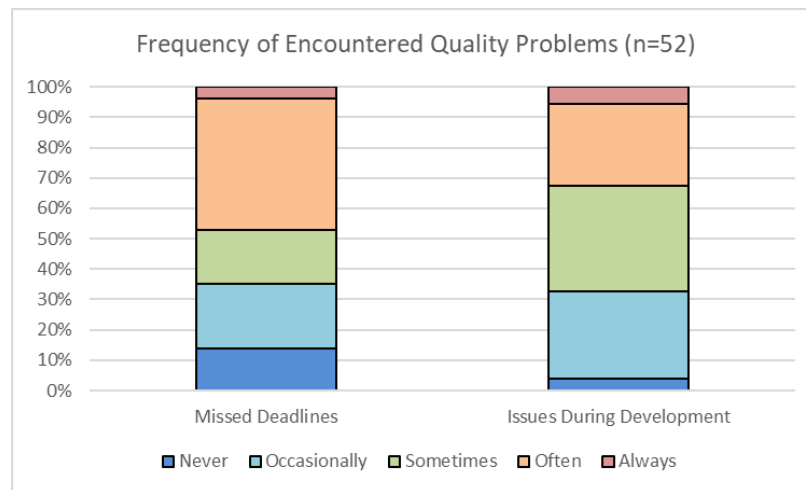


Figure 9: Frequency of Encountered Quality Problems

## 6.2 Cross Cutting the Data

Within the survey two primary quality measures were captured: Frequency of Missed Deadlines and Frequency of Issues During Development. Both of these variables used a 5-point Likert scale: Never, Occasionally, Sometimes, Often, and Always. The variables were cross-tabulated into the 5x5 contingency table shown in Figure 10. Each cell contains a count of the number of institutions for each value pair. For example, there were 8 institutions that responded that they Often miss deadlines and Often encounter issues during proposal development.

Frequency of Missed Deadlines by Issues During Development						
Frequency of Missed Deadlines	Never		1	2	4	
	Occasionally	1	2	1	5	2
	Sometimes	1	3	3	2	
	Often		8	10	4	
	Always	1		1		
(n=51)		Always	Often	Sometimes	Occasionally	Never
Frequency of Issues During Development						

Figure 10: Frequency of Missed Deadlines by Issues During Development

Since there are only 51 respondents with complete data, several cells with 0 responses (empty cells), and an expected value of approximately 2 for each cell, a chi-square test could not be run on the raw data. To address this, the two positive values (Never and Occasionally) and the two negative values (Always and Often) were combined. The resultant 3x3 contingency table shown in Figure 11 does not have any empty cells and the expected value for each cell is over 5. This could then be evaluated using chi-square to determine if there is an association between the two variables. The relation between Frequency of Missed Deadlines and Frequency of Issues During Development was significant,  $\chi^2 (2, N = 51) = 10.25, p = .036$ .

Frequency of Missed Deadlines by Issues During Development Contingency Table Defining Variable "Performance Rating"				
Frequency of Missed Deadlines	Never / Occasionally	4	3	11
	Sometimes	4	3	2
	Often / Always	9	11	4
(n=51)		Often / Always	Sometimes	Never / Occasionally
		Frequency of Issues During Development		

Performance Rating:

High

Medium

Low

Figure 11: Contingency Table Defining the Composite Variable, Performance Rating

Each institute was assigned one of three possible Performance Ratings, High, Medium, or Low, also shown in Figure 11. Institutions responding that they never/occasionally encounter issues during development were rated as High performers. The cells defining this category are highlighted in green in Figure 11. Institutions responding that they Sometimes encounter issues during development were rated as Medium performers (cells highlighted in yellow). Institutions responding that they Often or Always encountered issues during development were rated as Low performers (cells highlighted in red). This definition of a Performance Rating by Frequency of Issues During Development split the sample into tertials with equal groups of 17 respondents each. The Performance Rating variable was then used in several statistical tests to attempt to determine if there were any common practices among categories of performers.

In order to determine if factors could predict the Performance Rating, a multiple linear regression analysis was performed. The factors incorporated into the model were: (1) whether the institute has a defined process, (2) whether the institute uses a Shipley-based method, (3) how frequently a schedule and responsibility matrix is used, (4) whether in-progress reviews are conducted, (5) how frequently progress checks are conducted, and (6) how frequently an accountable person is assigned. Figures 12-14 show the regression analysis. A regression equation was found ( $F(6,43) = .817, p = .563$ ), with an  $R^2$  of .102. Since the model only accounts for 10% of the variance of the Performance Rating, it was not determined to be significant.

<b>Model Summary</b>				
<i>Multiple R</i>	<i>R Square</i>	<i>Adj. R Square</i>	<i>Std. Error</i>	<i>Observations</i>
.320	.102	-.023	.830	51

Figure 12: Model Summary of Regression Statistics

<b>ANOVA</b>					
	<i>df</i>	<i>Sum of Squares</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance F</i>
Regression	6	3.373	.562	.817	.563
Residual	43	29.607	.689		
Total	49	32.980			

Figure 13: ANOVA Table for Regression Model



Coefficients						
	<i>Coefficients</i>	<i>Std. Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	1.246	.539	2.312	.026	.159	2.332
Institute Has a Process	.442	.260	1.700	.096	-0.82	.966
Uses Shipley Method	-.148	.335	-.441	.662	-.824	.528
Conducts IPRs	.079	.281	.280	.781	-.488	.646
Uses Schedule and Responsibility Matrix	.022	.164	.134	.894	-.308	.352
Conducts a Progress Check	.071	.194	.364	.718	-.320	.461
Assigns Accountable Person	.106	.138	.767	.447	-.173	.385

Figure 14: Table of Coefficients for Regression Model

To further analyze the use of several tools, chi-square tests were performed on several factors. Figure 14 would appear to indicate that High performers use a schedule and responsibility matrix more frequently than Medium and Low performers (47% Often or Always for High performers vs. 24% for both Medium and Low performers). However, a chi-square test of independence showed that there was no significant association between Performance Rating and using a schedule and responsibility matrix,  $\chi^2 (2, N = 51) = 7.993, p = .092$ .

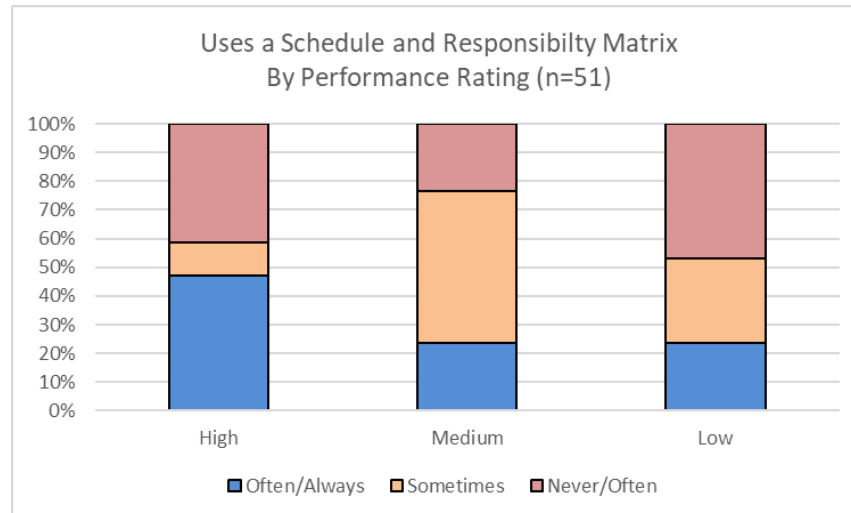


Figure 15: Uses Best Practice Tools by Performance Rating.

Using an in-progress review also appeared to have a slight influence on higher performance ratings, as shown in Figure 15. High performers and medium performers both use an in-progress review 76% of the time, whereas low performers conducted an in-progress review only 59% of the time. However, a chi-square test of independence showed that there was no

significant association between Performance Rating and conducting an in-progress review,  $\chi^2$  (2, N = 51) = 1.7, p = .427.

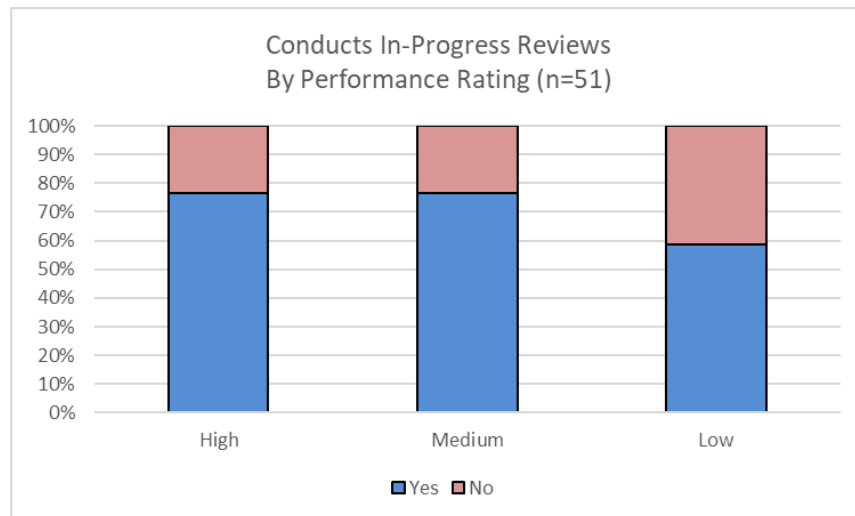


Figure 16: Uses in-progress reviews by Performance Rating.

This survey did not investigate a detailed analysis of how often reviews were conducted or how rigorous the reviews were. So, this factor likely encompasses a wide variety of practices. More detailed analysis may provide better insight between the practices employed by organizations within the respective performance rating categories. Further research is necessary to test this hypothesis. However, the use of a basic progress check was assessed for this study. As shown in Figure 16, all categories of performers were highly likely to conduct a progress check. A chi-square test of independence showed that there was no significant association between Performance Rating and conducting a progress check,  $\chi^2$  (2, N = 50) = 1.838, p = .766.

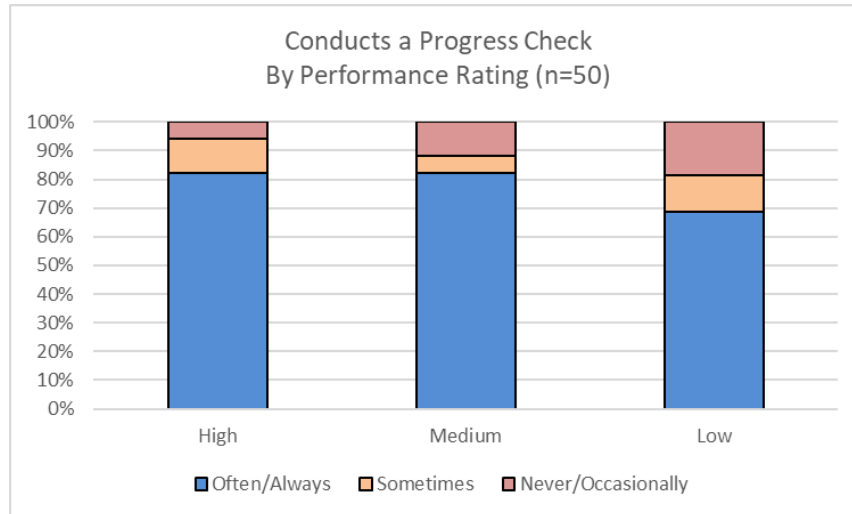


Figure 17: Uses Progress Checks by Performance Rating.

Institutions which assign an accountable person to oversee proposal development appeared fairly equal across all performance ratings, as shown in Figure 17. High performers Often or Always assign an accountable person 65% of the time vs 59% for both medium and low performers. A chi-square test of independence confirmed that there was no significant association between Performance Rating and assigning an accountable person,  $\chi^2 (2, N = 51) = 5.19, p = .268$ .

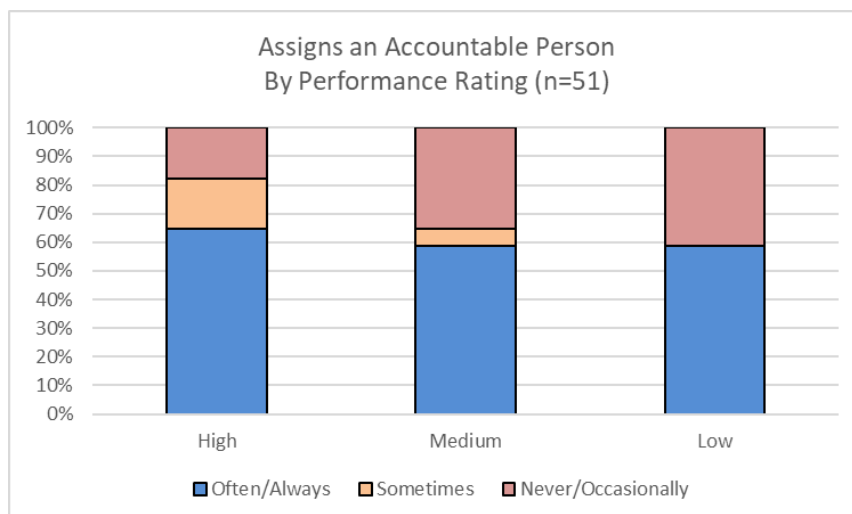


Figure 18: Assigns an Accountable Person by Performance Rating

Collectively, the results of these tests indicate that while there is an association between frequency of missed deadlines and frequency of issues during proposal development, no

association between categories of performers and specific patterns and practices were identified. There are a couple possible reasons for this. First, the limited response resulted in a lack of statistical power. A larger sample size as well as more detailed capture of specific processes may provide better insight to which practices and tools are most effective at delivering positive outcomes. Secondly, the institutes were assigned to a performance rating category based upon an output quality factor rather than outcome factors (e.g. win-rate, award amounts, etc). A more exhaustive collection of outcome data may result in more effective performance ratings.

However, when process controls were analyzed against the frequency of issues in proposal development a compelling result emerged. A chi-square test of independence found that there was no significant association between institutes' having a defined process and the frequency of issues during proposal development,  $\chi^2 (4, N = 51) = 7.387, p = .117$ . Figure 17 shows the distribution of responses.

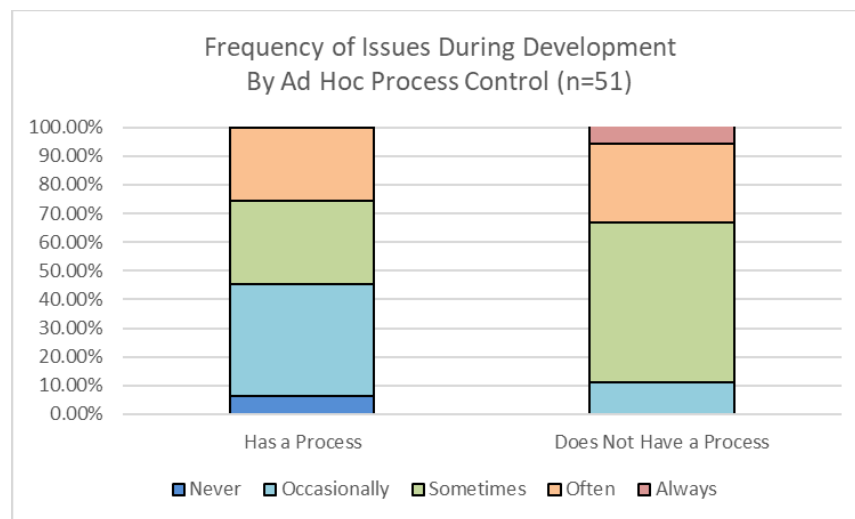


Figure 19: Frequency of Issues During Development by Ad Hoc Process Control

Yet, by contrast, a chi-square test did find a significant relationship between the variables for frequency of issues during development and using the Shipley proposal development process.

Using a Shipley-based method was found to reduce the frequency of issues during development,  $\chi^2(4, N = 53) = 13.065, p = .011$ . Figure 18 shows the distribution of responses.

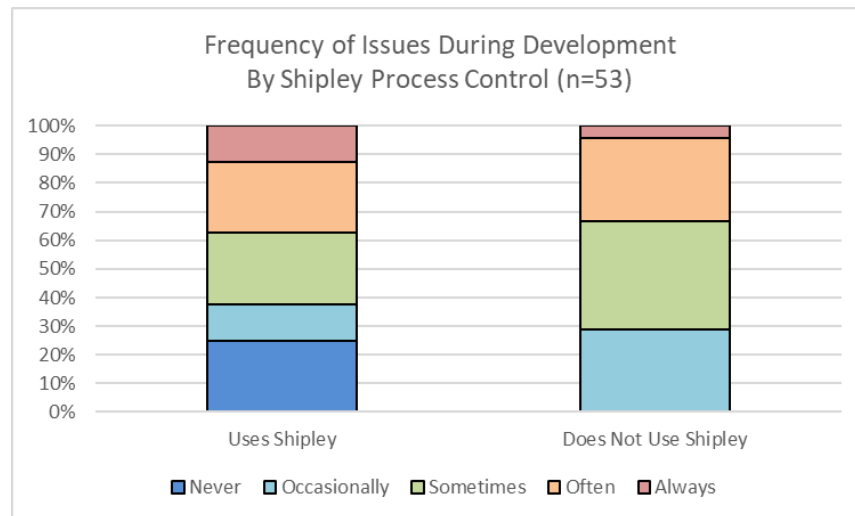


Figure 20: Frequency of Issues During Development by Shipley Process Control

This finding further suggests that institutes are using ad hoc processes which do not incorporate industry best practices. While this study was not able to identify the specific practices which influence the quality factors within the proposal development process, it does indicate that a more rigorous methodology can result in a lower frequency of issues during development. However, due to the relatively low sample size for the study, further research is necessary to better validate that finding.

### 6.3 Interview Results

The institutions interviewed who actively use a Shipley-based process do so for complex and high value efforts. This level of proposal support is voluntary and is not provided unilaterally across all proposal efforts. The interviewees all stated that the process has helped to increase the success of their proposal activities. For example, the Executive Director of ASU's Research Development Office stated that implementing a defined proposal process, that is based on the Shipley method, has increased efficiency and the bandwidth of her team. She maintains that the

implementation of a defined proposal development process has increased her team's ability to support complex proposal efforts. Prior to adopting a defined process, they could only support 7 complex proposals per year. However, after maturing their process and incorporating accepted best-practices and standards, they have increased their throughput to approximately 35 complex proposals per year<sup>26</sup>.

Each of the academic institutions that were interviewed follow a Shipley-based process. They also have staff that perform the role of Proposal Manager, but the position may be titled differently. ASU, for example, has adopted portions of the traditional Shipley proposal management process – including staffing offices with proposal development specialists or proposal managers. UNC Chapel Hill also has staff that performs this role, but they are not called Proposal Managers (PMs). The proposal management process used by the interviewed institutions includes a PM who acts a hub for proposal development activities and has the primary responsibility of ensuring that the proposal is compelling, properly written, compliant, and submitted before the client's deadline. The PM works with technical research staff and Subject Matter Experts (SMEs) to document the proposed solution, coordinate reviews, and research compliance approvals. Each of the institutions interviewed also stated that having dedicated staff to support the proposal process and following a Shipley-based process reduced burden and increased the total number of proposals that they are able to respond to each year.

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<sup>26</sup> Farmer, Faye. *Proposal Development Process Interview: Arizona State University*. Ed. Amy McGovern., 2020. Print.

## Chapter 7: Conclusion

Research conducted for this thesis shows that many institutions of higher learning are incorporating a proposal development process that is not based on best-practices. Data shows that implementation of a Shipley-based proposal process rather than an ad hoc, institution-defined process may decrease the frequency of issues encountered during proposal development. This may increase an institution's velocity when responding to Requests for Proposal (RFPs) and funding announcements<sup>27</sup>. However, further research is necessary to determine if other quality factors, such as velocity, are associated with more rigorous proposal development methods, such as Shipley.

The process of developing a cohesive proposal with a high likelihood of success is challenging and involves the coordination of many interdependent groups that often operate autonomously. The proposal needs to be compelling while meeting the requirements of the funding agency and the opportunity announcement. In addition, solicitations will vary by client type, funding type, and may even vary within specific funding agencies. Implementing a proposal development process, such as the Shipley Method<sup>28</sup>, can help to increase both the quality and compliance of proposals. This can result in a smoother proposal development experience that encounters fewer issues.

When an entity and its cooperators do not establish and adhere to a well-defined system it can lead to version control issues and the potential for critical tasks to be missed. This puts the proposal effort at risk due to delays and last-minute work. As a proposal team pushes through

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<sup>27</sup> Shipley Associates. *Writing Winning Proposals: Capturing Federal Services Business: Workshop Manual*. Bountiful, Utah P.O. Box 460, Bountiful 84011: The Associates, 1992b. Web.

<sup>28</sup> Newman, Larry, and Shipley Associates. *Proposal Guide for Business Development Professionals*. Farmington, UT: Shipley Associates, 2001. Web.

issues close to the submission deadline, the overall quality of the proposal may suffer, resulting in reduced probability of award. The geographically dispersed nature of the cooperating teams can be a challenge because of the collaborative nature of proposal writing. Without a rigorous process, this may not be accounted for and properly mitigated, causing delays at the back end of the proposal process as editors work to get the draft into a single consistent voice.

Additionally, resource contention is an often-hidden challenge, where key individuals may be working on multiple proposal submissions simultaneously. This can cause conflicts due to lack of visibility into competing priorities. If a proposal goes into an at-risk status resulting in increased workload for a team member also working on a second proposal, it may cause the second proposal to also become at-risk, as well, as attention and effort is shifted away from it towards the first proposal.

While this study was limited by the sample size of 55 respondents, it provided a foundation which may better inform future research. The findings suggest that there may be an association between rigorous, disciplined proposal development practices and a reduction in issues encountered during proposal development. The process which encompasses proposal development is remarkably complex and can vary greatly even between groups within an institution. As such, there may be numerous confounding factors that make it difficult to identify the specific mechanisms which influence proposal success. Nevertheless, future studies could expand the duration, scope, and granularity of the study to attempt to identify and control these factors.



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## Appendices

### Appendix I: Survey


7/21/2020 Proposal Survey - Google Forms

## Proposal Survey

Questions Responses 56

### Are Research Teams at Universities Implementing Proposal Development Best Practices?

A well-defined proposal development process can increase the probability of a proposal or grant being 

1. Are you affiliated with a university or college? If yes, please name? (If you prefer not to answer please list N/A).

Short answer text

2. Does your entity use a defined proposal development process?







☐ Yes

☐ No

☐ Unsure

3a. When working on a proposal do you follow a process, such as the Shipley Proposal process, which includes defined milestones, win themes, gate checks and internal color team or in-process

☐ Yes

[https://docs.google.com/forms/d/1aV4bCtG28D-YkZl-qqiPR\\_jpdOHGFnBvWTY2D8wg62Y/edit](https://docs.google.com/forms/d/1aV4bCtG28D-YkZl-qqiPR_jpdOHGFnBvWTY2D8wg62Y/edit) 1/6

☐ Unsure

3b. If you use a process other than a Shipley-based process please describe your process in a few sentences.

Long answer text

4. When working on a proposal how frequently do the proposal teams work off of a standard calendar and a responsibility matrix?

- ☐ Never
- ☐ Occasionally
- ☐ Sometimes
- ☐ Often
- ☐ Always

5a. Do the proposal sections (i.e. technical, budget, administrative information) get reviewed as they are being developed?

- ☐ Yes, they are reviewed during the process.
- ☐ No, they are reviewed once before sending them to the research administration office.
- ☐ Other

5b. If they are not being reviewed throughout the process does this create "last minute work" to identify and/or fix the issues? Please explain:





Long answer text

6. How frequently do you encounter proposals which miss the deadlines imparted by the research administration office?

- ☐ Never
- ☐ Occasionally
- ☐ Sometimes
- ☐ Often
- ☐ Always

7. How frequently does a designated staff member (i.e. yourself or a peer) check on the progress of the proposal during the proposal development process?

- ☐ Never
- ☐ Occasionally
- ☐ Sometimes
- ☐ Often
- ☐ Always

8. Does your proposal process include proposal color reviews and/or internal in-progress reviews?  
Please check all that apply:

- ☐ Kick Off Meeting



- ☐ Red Team Review
- ☐ Green Team Review
- ☐ White Glove Review
- ☐ Black Hat or Blue Hat capture meetings
- ☐ We hold internal in-progress reviews but we do not label them as color team reviews.
- ☐ We do not hold internal in-progress reviews.
- ☐ Other...

9a. How frequently do proposals experience issues during the development process (e.g. behind schedule, rework, incorrect budget, wrong forms, missed deadlines)?

- ☐ Never
- ☐ Occasionally
- ☐ Sometimes
- ☐ Often
- ☐ Always

9b. If this is something that you have encountered, please explain:

Long answer text

10a. If a proposal is not on track to be submitted on time to the Office of Research Administration, how often would it get cancelled?



- ☐ Occasionally
- ☐ Sometimes
- ☐ Often
- ☐ Always

10b. If a grant application is not on track to be submitted on time to the Office of Research Administration, how often would it get pushed to an alternate submission cycle?

- ☐ Never
- ☐ Occasionally
- ☐ Sometimes
- ☐ Often
- ☐ Always

11. How frequently is someone other than the PI assigned to a proposal who holds responsibility for resolving any issues (e.g. forms not filled out correctly or technical files are incomplete)?

- ☐ Never
- ☐ Occasionally
- ☐ Sometimes
- ☐ Often
- ☐ Always



- ☐ Never
- ☐ Occasionally
- ☐ Sometimes
- ☐ Often
- ☐ Always

13. When proposal issues are identified, how often does it detract from your other work and other milestones?

- ☐ Never
- ☐ Occasionally
- ☐ Sometimes
- ☐ Often
- ☐ Always

14. Do you have additional information that you would like to provide?

Long answer text



## Appendix II: Survey Respondents by Affiliation and Carnegie Classification

Note: 3 Responses were excluded because the respondents were not affiliated with a University

University	Count of Timestamp	Type of University – if R1 or R2
Angelo State University	1	
Appalachian State University	1	
Arizona State University	2	R1 Public
Auburn University	2	R1 Public
Christopher Newport University	1	
Clemson University	1	R1 Public
Harvard University	1	R1 Private
Marquette University	1	R2 Private
N/A	13	
NC State University	1	R1 Public
No	3	
Northeast Ohio Medical University	1	
Oklahoma State University	1	R1 Public
Princeton University	1	R1 Private
Rutgers	1	R1 Private
Stephen F. Austin State University	1	
Tidewater Community College	1	
Tri-County Technical College	1	
UC, Riverside	2	R1 Public
UCLA	1	R1 Public
UNC, Chapel Hill	1	R1 Public
University of Florida	1	R1 Public
University of Illinois at Chicago	1	R1 Public
University of Louisiana at Lafayette	1	R2 Public
University of Maryland, College Park	1	R1 Public
University of Michigan	1	R1 Public
University of North Texas	1	R1 Public
University of Northern Iowa	1	
University of Pittsburgh	1	R1 Public
University of Rochester	1	R1 Private
University of South Carolina	1	R1 Public
University of Vermont	1	
University of Washington	1	R1 Public
University of Wisconsin - Madison	1	R1 Public
Villanova University	1	
Washington State University	1	R1 Public
Washington University in St. Louis	1	R1 Private
Yale University	1	R1 Private
<b>Grand Total</b>	<b>55</b>	

### Appendix III: Email Script for Requesting Interviews and Interview Questions

*Mr. Blouin,*

*My name is Amy McGovern and I am a student in the Master of Science in Research Administration program at Johns Hopkins University. I am also a Sr. Proposal Manager at RTI International, located in Research Triangle Park, NC.*

*I am in the process of doing research for my thesis and am investigating why standard proposal development practices (such as the Shipley method) are not consistently implemented within academia and the research community. This is something that I have encountered both during my course study at JHU and during my professional proposal development work at RTI.*

*I know that your office provides proposal developers/proposal managers to support certain strategic bids. I wanted to reach out to see if you would agree for a quick interview or if it would be better to reach out to another member of your staff? If it is more convenient, I would also welcome answers to my questions via email.*

*I know that this is a busy time for you and understand if you are unable to accommodate my request.*

*I thank you in advance for your time and attention.*

*Best,*

*Amy McGovern  
919-675-5477*

**Interview Design for Live Interviews:**

Can you please explain your current role at your institution?

Does your entity use a dedicated proposal process?

Does your organization provide proposal support for only complex proposals or does it provide support for all proposal efforts?

Can you describe what defines a complex proposal?

How do you identify the proposals that you will support?

Is there a dollar threshold for providing support?

Can you describe your proposal process?

Does that process include best practices, such as the Shipley Proposal method?

Has implementation of proposal best practices benefited your organization?

Do you have a dedicated office or team that provides this support?

How was your office/team formed? What is the history?

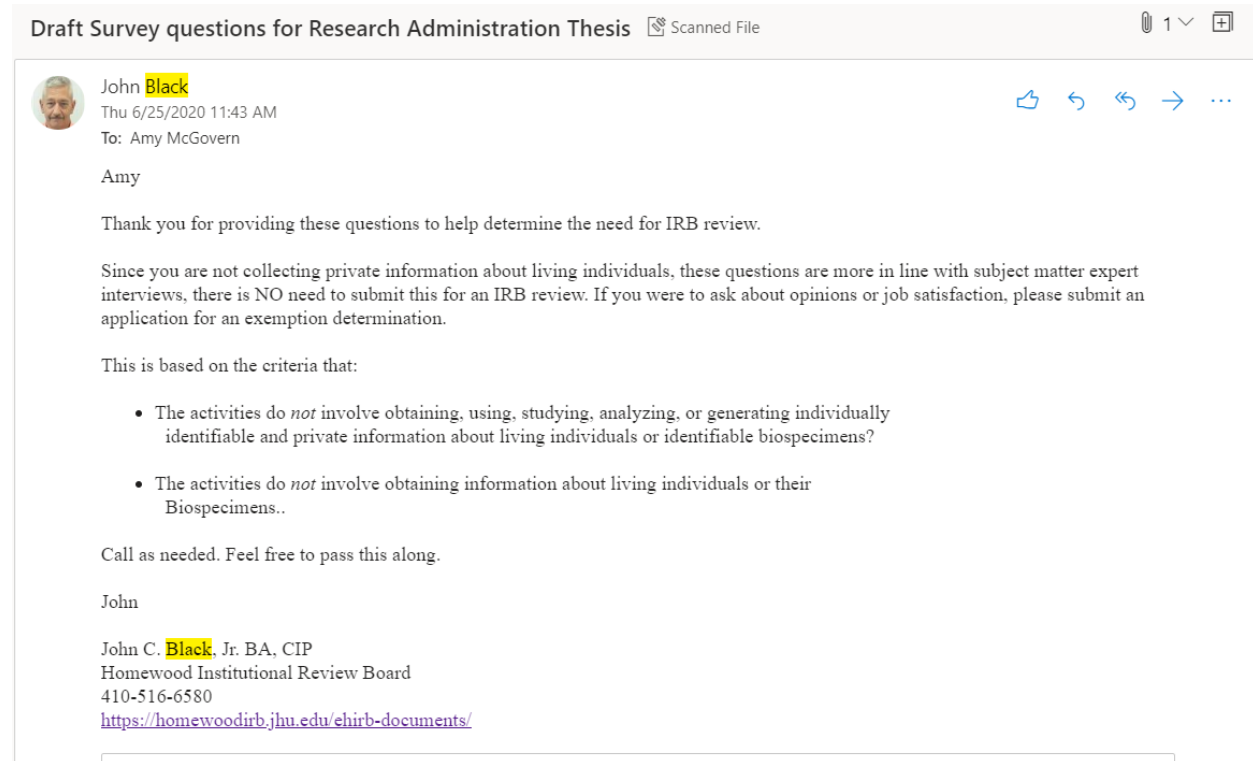
## Appendix V: CITI Program Certification

		<table border="0"><tr><td>Completion Date</td><td>22-Jun-2020</td></tr><tr><td>Expiration Date</td><td>21-Jun-2025</td></tr><tr><td>Record ID</td><td>37156118</td></tr></table>	Completion Date	22-Jun-2020	Expiration Date	21-Jun-2025	Record ID	37156118
Completion Date	22-Jun-2020							
Expiration Date	21-Jun-2025							
Record ID	37156118							
<p>This is to certify that:</p> <p><b>Amy McGovern</b></p> <p>Has completed the following CITI Program course:</p> <table border="0"><tr><td><b>Exempt Research</b></td><td>(Curriculum Group)</td></tr><tr><td><b>Exempt Research</b></td><td>(Course Learner Group)</td></tr><tr><td><b>1 - Basic Course</b></td><td>(Stage)</td></tr></table> <p>Under requirements set by:</p> <p><b>Johns Hopkins University</b></p>			<b>Exempt Research</b>	(Curriculum Group)	<b>Exempt Research</b>	(Course Learner Group)	<b>1 - Basic Course</b>	(Stage)
<b>Exempt Research</b>	(Curriculum Group)							
<b>Exempt Research</b>	(Course Learner Group)							
<b>1 - Basic Course</b>	(Stage)							
		<div style="border: 1px solid black; padding: 5px; font-size: small;">Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).</div>						
		 Collaborative Institutional Training Initiative						

Verify at [www.citiprogram.org/verify/?w90d6344c-7ce1-49d0-9636-3f52c1078164-37156118](http://www.citiprogram.org/verify/?w90d6344c-7ce1-49d0-9636-3f52c1078164-37156118)



## Appendix VI: IRB Email



Appendix VII: Full Answers to Question 3b – If you use a process other than a Shipley-based process please describe your process in a few sentences.

- *The get it done process- make sure it follows guidelines and submit*
- *Use Smart Sheet and proposal check list*
- *Depends entirely on the sponsor and the PI*
- *SCRUM/Agile Project Management with needs-based adjustments*
- *PI and administrator put together proposal. Central Spon Prog (sic) reviews & submits.*
- *Our process has been defined internally to align with Good Clinical Practice (GCP) standards.*
- *Home-grown across university and college units as determined by individual grant specialists*
- *It's merely coordination with the PIs letting them know what is expected from them*
- *I am Shipley Method and Project Management (PMI) trained. I've bastardized a system that helps me keep our faculty on track as best as I can.*
- *Our internal business policy for proposal processes outlines responsibilities and the flow*
- *Faculty member contacts central college email and is assigned to a grants administrator (GA) within their college. GA works with faculty member to develop budget and prepare administrative forms for submission.*
- *Home grown...outreach to OSP from Shower Thoughts to submission. OSP locates resources...collaborators/mentors/articles. OSP shreds the RFP for important clauses and language, review prop parts as they become available making suggestions, edits and naming resources not considered. Budgeting, review of justification, DMP, research compliance issues, assist in obtaining institutional approval...just touched the tip of the iceberg.*
- *Internal process with defined tasks*
- *We have defined deadlines for key milestones, but nothing complex. 15+ days out: notify our office. 10+ days out: draft budget due, Fastlane (etc.) started & access given to our office, internal system routed for approval. 5+ days out: everything finished except the science. 3+ days out: ready to submit*
- *For the most part, we use the process you described BUT tweaked to work for our specific university and faculty who do research.*
- *Define concept. Analyze funding opportunity for fit with concept and institution. Assign tasks and deadlines. Internal review and routing are probably our most difficult task!*
- *We use an Excel template as a proposal plan that defines proposal components and establishes due dates for each component.*
- *We have a process that includes gate checks, but we don't always follow them due to last minute proposal submissions. We implemented a deviation, called, "Submitted-no review," where proposals are not reviewed by our office outside of 3 business days. This helps us protect our time and to encourage faculty to submit to us on time.*
- *Variation on Shipley (engaging red-team) only done for large multi-million dollar, multi-institutional/organizational efforts. Other considerations as to 'process' to be followed include limited submission (internal selection); alignment to institutional priorities (e.g., diversity, equity & inclusion) / identified research themes, or 'simply' investigator initiated. All these factors impact the nature and complexity of the process used.*

- *Checklist*
- *Our Dept uses a self-created process.*
- *Work with individual investigator to determine complexity and timelines to ensure correct resources will be used efficiently.*
- *Internal process that uses deadlines and milestones, but these end up being flexible when PIs need more time.*
- *Internal process*
- *Pre-award staff work with PIs depending on how much support they need throughout the process. We offer to meet with them as often as they need and to review documents at any stage of development.*
- *I've developed a process that works in my department, and adjust it depending on the PI and what I observe is needed for the specific proposal.*
- *Customized to submission (variables include type of submission, # of PIs, etc.)*

Appendix VIII: Full Answers to Question 5b – If [proposals] are not being reviewed throughout the process does this create "last minute work" to identify and/or fix the issues?

- *Some PIs refuse to send thing until the last minute*
- *No, because the review throughout the process option is available to those who choose it. Those who do not choose to take advantage of that option (which is offered to everyone) only get a cursory review to ensure key compliance items are met and that the proposal does not conflict with the university's mission and strategic plan.*
- *Yes, if the ongoing development review is not completed, this results in last minute changes to align with policies and procedures.*
- *Absolutely. When I was a grant specialist, I tried to fix every one of them. After 20 years in the business, I've learned the added "last minute work" efforts (generally day of submission) are often in vain (not to mention stressful for the PI and grant specialist) when it comes to chances of an award. Except for solicitation-critical issues, if the PI/team has not taken responsibility to submit sections of the proposal as provided in a suggested in a suggested timeline, limited review and subsequent corrections becomes the responsibility of the PI. (Note: this is my personal approach to issues within a college unit. My university does not have a university-wide policy other than an unwritten "we'll do the best we can when we get it" policy which is totally dependent on what individual grant specialists want to or have time to complete.)*
- *It can. It depends on how early faculty begin work on application materials and what still needs to be complete.*
- *We help to develop administrative elements for and with the PI. We also review before submission to our central office, which reviews all elements again.*
- *Of course. When PIs don't allow me (PD) in the creation process, there's inevitably issues to correct within the routing deadline (3 days for our SP office). Unfortunately, this burden falls on the RA staff.*
- *N/A since they are reviewed*
- *always - we have a 5-day deadline but still process last minute submissions as we are a smaller college and can't say no to external funds!*
- *Yes, when PIs don't follow the deadlines and we're forced to review items at the last minute, it creates issues. We work hard to eliminate rush proposals but are still running about 25% rushes.*
- *sometimes - absolutely. BUT this is normally is an issue of the faculty member being last minute in general.*
- *The proposal team and research administration office are the same people.*
- *Yes, there is often last-minute work near a deadline.*
- *In the event that internal deadlines are not followed, yes this causes a problem*
- *Absolutely, can find budget or formatting errors at last minute*
- *Last minute work is the nature of the business; things change that often can't be anticipated. Hence why it's important to build in time to 'adjust' 2 weeks before submission.*
- *No; we have a 10BD draft review route policy and a 5BD final route policy -- though when not adhered to, the timeline is truncated and creates extra work.*
- *Last minute work is inevitable and happens despite review during development.*

- *Yes, though we try to identify and address potential issues early on.*
- *We review them throughout the process which is helpful. Sometimes they are not shared with in until they want it submitted and that can certainly cause issues with last minute changes/fixes. Which is why we always ask the PI 's to send as soon as each doc is finished or near finished.*

Appendix IX: Full Answers to Question 9b – If [issues in proposal development] is something that you have encountered, please explain:

- *Depends on willingness of PI to accept deadlines*
- *Often times faculty do not engage research administrative staff early enough in the process. Additionally, the institution's 5 business day policy is not at all enforced.*
- *Our research process is fairly new and undeveloped. Lack of familiarity with the process and requirements often causes issues and delays in development and submission.*
- *There are no consequences for faculty who do not meet suggested targeted deadlines for each proposal component. The university submits any/all proposals no matter the quality. With a new ADR in the past year, my college unit is beginning to implement quality over quantity approach and work with PIs as a team, expending time/effort on those PIs/teams that are most deserving and are most likely to boost award hit rate.*
- *Often, faculty need more time to work on application materials. It is okay though, because the faculty is held accountable and usually puts together a draft or final document as soon as possible after I follow-up with them. We do sometimes have to rework the budget or fill in the budget once more information is obtained.*
- *I am Shipley trained, but there is a MASSIVE resistance to implementing a formal management process across our campus. "That doesn't work here."*
- *There is no institutional enforcement of deadlines, so a significant number of our proposals are submitted fairly late. In addition, our PIs often send along biosketches, C&Ps, etc., that are using an older format, so corrections are often needed.*
- *Typically 4 types of PI's -independent and experienced need little assistance, not their first time out of the gate...know it all and can make big mistakes...newbie seeking all the assistance they can get ... and newbie who doesn't know that there is an office that can assist them. Each poses problems and potential.*
- *Behind schedule, missed deadlines: sometimes. Rework, incorrect budget, wrong forms: nearly always.*
- *Most often the issue is being behind schedule on the actual writing.*
- *Missing forms and incorrect budgets are probably the most common issues*
- *Occasionally when faculty/program directors want to self-develop proposals they do not read all of the sponsor guidelines, which causes the proposal development to staff to have to rework the technical paper and budget.*
- *Our faculty are not used to working with grants administrators, since our office only hired departmental level help less than 2 years ago. We are still trying to get faculty to work with their grant's administrator throughout the proposal development process, instead of looping them in at the last minute.*
- *Mostly behind schedule which makes for long hours near the deadline*
- *Proposal development (especially project description) is an iterative process and the more players involved, the greater potential for 'deadline slippage' also critical is the 'nature' of the project and sponsor's goals. (grant vs contract work).*
- *It's usually the budget and justification that don't match. Fringe rates are off, they may have forgotten to compare IDC rates. They aren't sure of personnel salaries.*
- *Depends on competing deadlines and demands/workload which may interfere with usual process*

- *Behind schedule, which implies missed deadlines. Multiple budget revisions.*
- *Internal deadlines are not written in stone, but if it seems the proposal is behind schedule, we work to get it back on track.*
- *We generally work through 3-7 budget & budget justifications iterations during the process of development. Most faculty also push all deadlines and then we tend to scramble at the end.*

## Biographical Statement

Amy McGovern obtained her Bachelor of Fine Arts from Emerson College and a Graduate Certificate in Technical and Professional Communication from East Carolina University prior to completing her Master of Science in Research Administration at Johns Hopkins University. She is currently a Sr. Proposal Manager and Sr. Proposal Development Specialist at the Research Triangle Institute (RTI International).